NOTES, ABSTRACTS AND REVIEWS

Monthly Weather Review Supplement No. 31.[1]—Mr. Reed continuing his previous work, as noted in this REVIEW **55**:132, now presents one more installment of climatological data this time for Tropical South America, excepting Brazil. Detailed data of temperature and rainfall, so far as available are presented for the three Guianas, Venezuela, Colombia, Ecuador, Peru, and Bolivia with a brief discussion of the climate of each. Copies of the Supplement can be obtained from the Weather Bureau while its supply lasts or from the Superintendent of Documents, Government Printing Office, Washington, D. C. at the price of 10 cents each. Remittances should be made direct to that official.

Rise in level of the Great Lakes.—P. C. Day in the REVIEW **54**:85–101 discussed the precipitation of the Great Lakes drainage in connection with the low levels that were reached a couple of years ago.

According to recent reports from government engineers Lake Michigan for June 1928 was 1.71 feet above the low stage of June, 1926. This increase in level is attributable to the precipitation in the Great Lakes drainage beginning with the fall of 1927 and thus far in 1928, a result foreshadowed in the discussion above mentioned.—*A. J. H.*

The expedition of the United States Coast Guard ship Marion.—The *Marion*, although a small vessel, is a very seaworthy craft; she has an unusually strong hull, 125 feet in length, well rounded and full, providing seaworthiness which, strange as it may seem, is not exceeded even in the largest liners. For the last month or so she has been outfitting at New London, Conn., for a voyage of exploration in the waters that bear icebergs from the region about Greenland to the Grand Banks.

She is commanded by Lieut. Commander Edward H. Smith, well known for researches in ice-patrol work off the Newfoundland banks. Lieut. N. G. Rickets is second in command and the crew consists of 20 men.

The *Marion* after leaving Sidney will pass through the Straits of Belle Isle, which generally are open from the first part of July until the middle of December. Reports already received from Commander Donald MacMillan are to the effect that the present season is a most unusual one along the Labrador coast, there being practically no field ice in spite of much easterly wind. Having passed Belle Isle will set her course northeastward and begin the real work, viz, of measurement of the speed and direction and depths of the currents encountered, the making of meteorological and oceanographic observations, and the detailed observations of icebergs. The main object of the expedition is to make a systematic survey of waters that bear icebergs to the Grand Banks, thereby adding to the stock of knowledge of this inhospitable region.—*Excerpted from mimeographed report by U. S. S. Marion.*

The vagaries of June, 1928, weather.—The weather of the current June in Washington, D. C., and elsewhere in northeastern United States, was characterized by an unusually large number of days with a trace or more of rain, 23, and the number of days with 0.01 inch or more was 18, a number that equals the greatest number in any June during the last fifty-odd years. Notwithstanding the large number of days with rain the total rainfall of the month was but 2.26 inches or 1.47 inches below the normal. Naturally cloudiness was greater than usual, the day temperatures not so high as in normal June weather and a cool and rather dry month was experienced—*A. J. H.*

The climate of Russian middle Asia.—Under the title of "The Climate of Russian Middle Asia"[2] by W. Koeppen and R. Geiger, there has appeared a brief discussion of the climates of Russian Turkestan, a region extending roughly from 36° to 48° N. latitude and from 52° to 82° E. longitude.

The authors present a table which contains 50 stations and gives, for each the altitude, the mean temperatures for the year and for the alternate months, January, March, May, July, etc., the mean annual and seasonal precipitation, and the maximum and minimum cloudiness and relative humidity with the month in which each occurs. There is also a table which shows the precipitation by months for 32 stations; and a third table which gives for nine stations the average wind direction as well as the velocity of the wind at 7 a. m., 1 p. m., and 9 p. m., and the number of days with strong winds.

Upon these data the authors base their classifications of the climates of the region according to the Koeppen system, and a map is included to show the distribution of these climates. Seven main divisions or regions are recognized: Desert climate (which comprises about half the area), steppe climate, estesian climate, moist temperate climate, winter-moist-cold climate, tundra climate, and dry tundra climate. The last four make up about 10 per cent of the whole area.

The data, map, and discussion bring out the fact that the whole region is one of relatively cold winters and hot summers, except at high altitudes in the eastern part, where the mean July temperature falls as low as 13.6° C. (56.5° F.). In general, the rainfall is very light, from 59 mm. (2.36 in.) to 576 mm. (23.04 in.), with March, April, and May the months of greatest precipitation. The winds, except for a small area around the Caspian Sea, are uniformly light; and, with few exceptions, they blow prevailingly from the east and northeast throughout the year.—*C. E. K.*

June weather in United States 50 years ago.—June, like May, 1878, was a cool month with frost in the early part of the month in the Rocky Mountain region. The condition for frost drifted eastward and was across upper Michigan on the 6th; it was dissipated in eastern districts on the 7th, although heavy frost was reported as having occurred in exposed localities in western Pennsylvania on the 6th. In general the month was without distinctive features.—*A. J. H.*

METEOROLOGICAL SUMMARY FOR SOUTHERN SOUTH AMERICA, MAY, 1928

By J. BUSTOS NAVARETTE
[Observatorio del Salto, Santiago, Chile]

The most important anticyclones, all of which moved from Chiloe toward northern Argentina, were charted during the following periods: 2d to 4th, 9th to 12th, and 14th to 19th. The last two brought settled weather and moderate temperature during practically all of the second decade.

Following the depression of the 8th, which caused rain in all of the central and southern region, there was no important cyclonic activity until the 20th, when a marked period of unsettled weather began.

[1] Reed, W. W. Climatological data for northern and western tropical South America. pp. 21, price 10c.

[2] Das Klima von Russisch-Mittelasien, Sonderabdruck aus Petermanns Geographischen Mitteilungen 1927, Heft 9/10.

The depression of the 20th–21st was attended by general rainfall from Aconcagua to Chiloe. The greatest 24-hour amounts in inches were 1.65 at Talca, 1.46 at Valparaiso and San Fernando, and 1.22 at Curico.

On the 24th there appeared a center of low pressure which remained stationary off Isla Mocha until the 28th, bringing continued unsettled weather and rain. The heaviest daily amounts of precipitation in inches were 1.34 at Talca, 1.50 at Valdivia, 2.01 at Cauquenes on the 25th, and 2.20 at Temuco on the 27th.

Lastly, on the 29th–30th there was a depression off the middle coast accompanied by rainfall from Coquimbo to Chiloe, the heaviest falls being recorded on the 29th—Valdivia, 2.24 inches, and San Fernando, 2.28 inches.

The region receiving rain during the month extended from Coquimbo to Magallanes. The total precipitation for the month was 3.87 inches at Santiago and 9.79 inches at Valdivia.—*Translated by W. W. Reed.*

METEOROLOGICAL SUMMARY FOR BRAZIL, MAY, 1928

By FRANCISCO DE SOUZA, Acting Director

[Directoria de Meteorologia, Rio de Janeiro]

In May seven anticyclones were charted; some of these were of rather marked intensity and caused decided fall in temperature in the south. The weather was unsettled and at times stormy, especially on the southern coast, where occasional tempestuous winds occurred. Precipitation was light in the northern and central regions, the monthly totals showing deficiencies of 3.03 and 1.30 inches, respectively. In the southern region very irregularly distributed rainfall gave an average excess of 3.15 inches above the normal.

The rains did not interfere with cultivation except in the case of cane, which suffered in this respect in the last decades. Harvesting of coffee, cacao, cotton, cane, cereals, and vegetables continued with rather favorable yields.

At Rio de Janeiro the weather was generally fine; there was only one period of unsettled conditions. There was little cloudiness, only six days being recorded as cloudy. Temperatures averaged above normal; the departures for mean maximum and mean minimum were 2.7° and 2.5° F., respectively. The temperature extremes recorded in the Federal District were 96° at Tijuca and 50° at Campo dos Affonsos. The total precipitation, distributed over nine days, was 1.01 inches, or 2.30 inches below the normal. The duration of sunshine exceeded the normal for May by 32.6 hours. The prevailing winds were from the north quadrant; at times they were rather strong and on the 4th a maximum velocity of 42 miles per hour was recorded.—*Translated by W. W. Reed.*

BIBLIOGRAPHY

C. FITZHUGH TALMAN, in charge of Library

RECENT ADDITIONS

The following have been selected from among the titles of books recently received as representing those most likely to be useful to Weather Bureau officials in their meteorological work and studies:

Beman, Lamar T., *comp.*
Flood control. New York. 1928. 162 p. 20 cm. (Ref. shelf. v. 5, no. 7.)

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Carrick, D. B.
Effect of freezing on the respiration of the apple. Ithaca. 1927. 28 p. figs. 23 cm. (Cornell univ. Agric. exper. sta. Mem. 110. March, 1928.)

Coleman, D. A., & Boerner, E. G.
Brown-Duvel moisture tester and how to operate it. Washington. 1927. 44 p. illus. 23½ cm. (U. S. Dept. agric. Dept. bull. no. 1375. Issued Feb. 1926. Rev. Dec. 1927.)

Guillaume, A.
Les sols & le climat de la Cochinchine au regard de la culture de la canne à sucre. Paris. 1927. 47 p. plates. 24 cm. (Gouv. gen. de l'Indochine. Pub. de l'agence économique.)

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Penetration of daylight and sunlight into buildings. London. 1927. v, 21 cm. figs. plates (fold.) 25 cm. (Dept. sci. and indus. res. Illum. res. Tech. paper no. 7.)

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Sur l'origine et la constitution des cyclones. Bruxelles. 1928. 43 p. figs. 25½ cm.

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Proposed guide-book to the world's weather and climates. p. 67–94. 26 cm. (Repr.: Proc. Amer. phil. soc. v. 67, no. 1, 1928.)

SOLAR OBSERVATIONS

SOLAR AND SKY RADIATION MEASUREMENTS DURING JUNE, 1928

By HERBERT H. KIMBALL, Solar Radiation Investigations

For a description of instruments and exposures and an account of the method of obtaining and reducing the measurements, the reader is referred to the REVIEW for January, 1924, **52**:42; January, 1925, **53**:29, and July, 1925, **53**:318.

Table 1 shows that solar radiation intensities were slightly above the normal values for June at all three stations. At Madison, Wis., an intensity of 1.45 gram-calories per minute per square centimeter measured at 11 a. m. of June 14, through air mass 1.09 is the highest intensity ever measured at that station in June.

Table 2 shows that the total solar radiation received on a horizontal surface directly from the sun and diffusely from the sky was below the June normal at the three stations for which normals have been determined.

Skylight polarization measurements at Washington made on six days give a mean of 50 per cent, with a maximum of 56 per cent on the 9th. At Madison measurements made on two days give a mean of 66 per cent with a maximum of 70 per cent on the 14th. These are slightly above the correspomding average values for June at both stations.